Electronic Prescribing of Controlled Substances: The Physician's Perspective

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- AAP represents 60,000 primary care pediatricians, pediatric medical sub-specialists, and pediatric surgical specialists who are dedicated to the health, safety, and well being of infants, children, adolescents, and young adults
- AAP cares about EPCS because of the importance of EPCS to children with ADHD – this is about Ritalin not Oxycontin
- AAP cares about electronic prescribing
- AAP wants to reduce the barriers to the increased use of health information technology
- AAP is participating in HL7, ASTM, CCHIT and HITSP
- Dr Zuckerman is a practicing academic pediatrician who is a member of NCPDP, CCHIT IOWG, and HITSP CE-TC

EPCS:
Overview of Physician Issues

- There is an urgent need for EPCS to drive eRx
- What security measures will physicians tolerate to get EPCS?
- Attractiveness of smartcards and PKI
- Unanswered questions about PKI
- Comparing provider level PKI and vendor level PKI
- Making DEA registration as easy as possible
- Linkage to the NHIN
- A phased roadmap to PKI

Urgent Need for Electronic Prescribing of Controlled Substances

- The greatest risk for electronic prescribing is that people will not use it!
- Not having EPCS is a hardship to physicians using eRx
- Not having EPCS is a barrier to getting more physicians to use eRx
- Patients are being deprived of important quality and safety benefits of eRx decision support and calculators
- The risks of fraud and abuse are greater in the paper system than in eRx today

What Will Physicians Tolerate For the Sake of Having EPCS?

- Physicians who currently use eRx would tolerate small increases in cost to get the benefits of EPCS
- Physicians who do not use eRx today want to keep the cost low
- CCHIT will begin certifying eRx as part of ambulatory EHR in May 2007 so EHR may become more important than eRx alone
- Physicians do not want separate systems for EPCS and non-controlled substances
- Physician will carry a smartcard, but not several different ones for different purposes
- Physicians will not tolerate biometrics or secure ID changing passwords because of the time factor
- Physicians do not like sole source vendor lock – they want multiple vendor options
- Enrollment and identification must be quick and easy

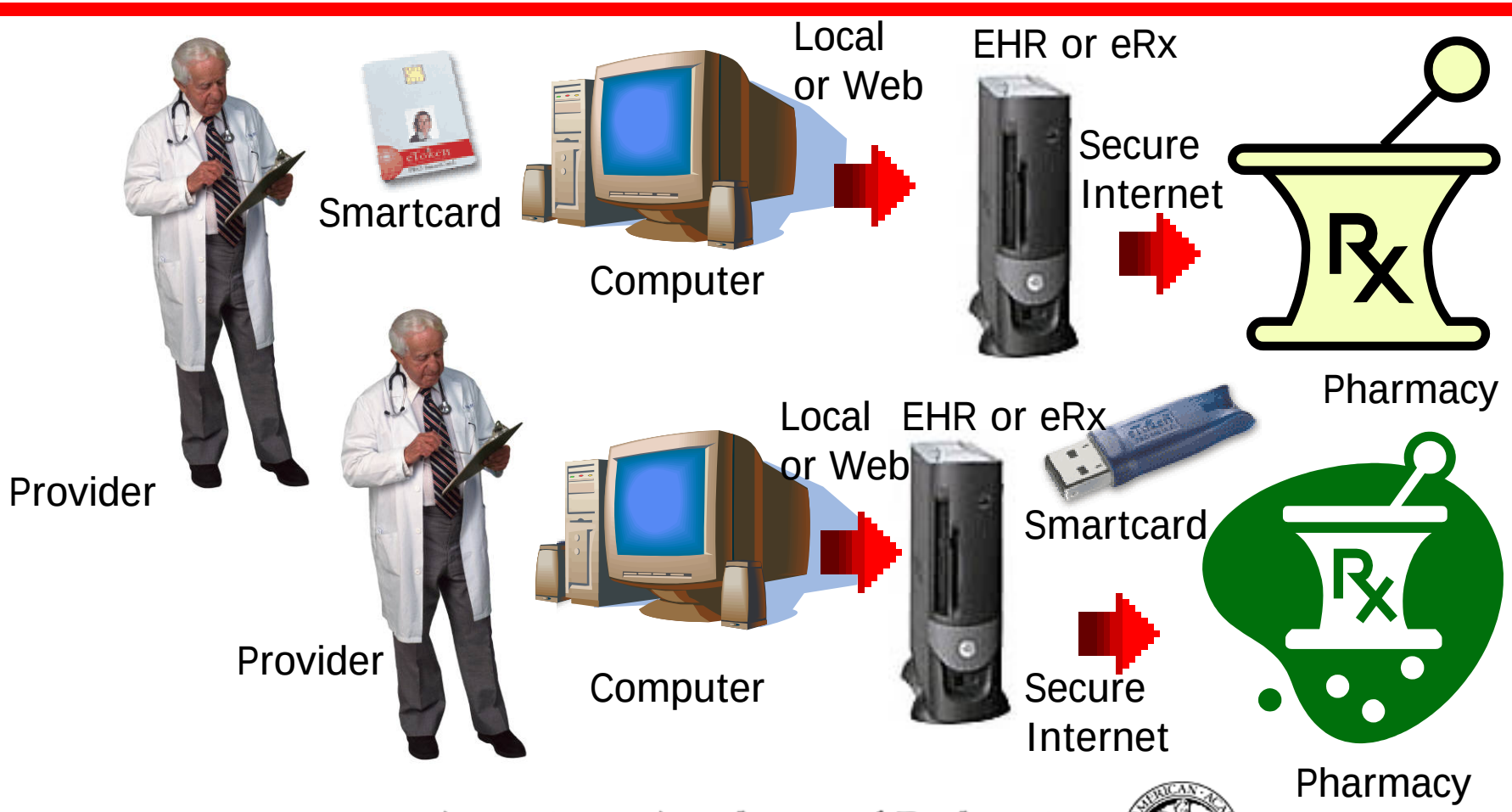
Attractiveness of Smartcards and PKI

- PKI adds 3 key features to electronic signatures
  - Third party user authentication
  - Document integrity checking
  - Non-repudiation
- A smartcard cannot be duplicated
- All critical processing takes place on the card
- Smartcards can be revoked remotely if lost or stolen
- Smartcards provide two factor strong authentication when used with the application password
- Smartcards now come in many form factors including USB smartcards and SD cards
- PKI can be used to protect the DEA number by encrypting the DEA number with the physician's public key

Unanswered Questions About PKI Use by Physicians

- Can we enroll large numbers of physicians and manage a large PKI outside of one enterprise? Limited experience with SAFE
- Can physicians really understand and accept PKI?
- A face to face identification step is necessary, but who will handle this function?
- Web Access and enrollment are essential
- Citrix Metaframe is used for some EHR and some use ASP
- Cell Phone / PDA will require SD cards
- Macintosh and Palm OS
- Will PKI middleware or drivers be in conflict with local HIPAA and other security systems
- Physicians will lose or forget their smartcards some of the time
- One solution is to move the PKI from the provider to the vendor

Comparing Provider Level PKI and Vendor Level PKI



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Consider the Differences Between Provider and Vendor PKI

- Every provider must have their own smartcard
- Every provider must PKI enroll with the DEA
- The smartcard must be presented every time a prescription is signed
- Each provider has a secure digital identity and non-repudiation
- If the smartcard is not available, no prescriptions can be written

- Every EHR system and eRx system must have their own smartcard
- The EHR vendor or the eRx vendor must PKI enroll with the DEA
- The smartcard must remain in the system every time a prescription is transmitted
- Login to the EHR or eRx system is not changed from current practices
- Two factor authentication is optional, one smartcard can server many providers

Making PKI and Smartcards Easier for Physicians to Use

- Enroll only once every three years as part of DEA registration
- One fee plus the cost of the smartcard – today some hospitals provide smartcards for remote access
- Allow one smartcard to be used for many other purposes
- Instant web enrollment following the example of GeoTrust E-Mail certificates
- Choice of multiple smartcard vendors, form factors, and certificate authorities
- Basic cryptography that does not raise the cost
  - 1024 bit keys, RSA, SHA-1 not 2048 bit keys or SHA-256
- Self installing portable middleware and web applications

Critical Need to Coordinate With the Nationwide Health Information Network NHIN

- We must not allow two separate systems for physician digital identity and signature to operate side by side – EPCS and NHIN
- Electronic documents will require electronic or digital signatures on the NHIN including eRx
- The DEA could provide key services to the NHIN creating a national network of trust
- The NHIN could provide key security services for EPCS
- Today eRx is handled by separate networks and switches, in the future eRx should be part of the NHIN architecture
- EPCS and eRx issues must be part of the NCVHS hearings on NHIN functions scheduled for July 26-27, 2007

A Phased Roadmap to PKI for EPCS – Pilots are Essential

- Allow EPCS with same technology as eRx
  - As soon as possible, must resolve State Laws
- Require vendor PKI, node authentication and signed messages
  - Within 1 year
- Conduct real-world pilot studies of physician use of PKI and smartcards
  - Complete pilots within 2 years
- Harmonize EPCS with the NHIN
  - Within 3 years, only one identity for all purposes
- Set national standards for optional use of PKI digital signature
  - Within 4 years
- Revise interim standards for EPCS
  - Within 5 years, allow interim to become final if not revised